

## ENHANCING STUDENT LEARNING MOTIVATION THROUGH GAMIFICATION TECHNOLOGIES IN PRE-CONSCRIPTION MILITARY EDUCATION

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**Abstract.** *Pre-conscription military education plays a critical role in preparing the youth for national defense, instilling civic duty, and teaching foundational military skills. This article explores the integration of gamification technologies as a transformative pedagogical strategy to enhance student motivation in pre-conscription military training. Drawing upon Self-Determination Theory (SDT), the paper examines how game-design elements such as progression systems, narrative-driven scenarios, immediate feedback, and collaborative missions can satisfy students' basic psychological needs for competence, autonomy, and relatedness. By translating core military curricula—such as topography, first aid, and tactical fundamentals—into engaging, gamified experiences, educators can bridge the gap between military discipline and modern interactive learning. Ultimately, it argues that gamification is not merely an entertainment tool, but a highly effective educational framework capable of transforming passive students into motivated, strategically minded future defenders.*

**Keywords:** *Gamification, Pre-conscription Military Education, Learning Motivation, Self-Determination Theory, Educational Technologies, Civic-Military Training, Gen Z Learners, Interactive Pedagogy.*

The primary objective of pre-conscription military education is the moral, physical, and psychological preparation of young citizens for active military service and broader civic defense responsibilities. It is a foundational stage where youth encounter the strict realities of military statutes, the intricacies of weapon handling, emergency medical response, and tactical topography. Despite its critical importance to national security, educators in this field increasingly face a significant pedagogical challenge: a pervasive decline in student motivation.

Today's students, predominantly belonging to Generation Z and Generation Alpha, are digital natives accustomed to highly interactive, visually stimulating, and feedback-rich environments. When these modern cognitive habits collide with traditional military pedagogy—which historically relies heavily on passive lectures, rigid memorization, and authoritarian instructional styles—a disconnect occurs. Students often perceive the curriculum as archaic, overly theoretical, and disconnected from their immediate reality, leading to apathy and superficial engagement.

To counteract this motivational deficit, educational systems globally are turning to **gamification**—the application of game-design elements and mechanics in non-game contexts. In the realm of pre-prescription military education, gamification offers a unique opportunity to modernize instruction. By strategically leveraging the engaging mechanics of games, educators can transform arduous military training into a compelling, immersive experience that naturally drives student motivation, fosters teamwork, and deepens knowledge retention.

### **Theoretical Framework: Gamification and Motivation**

To understand why gamification effectively enhances learning motivation, it is essential to ground the concept in established psychological frameworks, most notably **Self-Determination Theory (SDT)**, developed by Edward Deci and Richard Ryan. SDT posits that human beings are inherently driven to grow and learn when three basic psychological needs are met:

1. **Competence:** The need to feel capable and effective in one's interactions with the environment.
2. **Autonomy:** The need to feel in control of one's own behaviors and goals.
3. **Relatedness:** The need to feel connected, interacting, and caring for others.

Traditional pre-prescription training often suppresses these needs. Rigid, top-down instruction strips autonomy; complex, high-stakes testing can undermine competence; and individualized theoretical exams do little to build relatedness. Gamification directly addresses these deficiencies through specific mechanics:

- **Building Competence through Progression:** Gamified systems utilize Experience Points (XP), leveling, and badges. Instead of starting with a score of 100% and losing points for mistakes, students start at zero and *earn* points for every achievement. This creates a positive feedback loop, framing mistakes not as failures, but as necessary steps toward mastery.
- **Fostering Autonomy through Meaningful Choices:** By framing lessons as missions or scenarios, students are given choices on how to approach a problem (e.g., choosing a route on a topographical map or prioritizing patients in a triage scenario), allowing them to exercise strategic autonomy.
- **Enhancing Relatedness through Squad Mechanics:** Military operations are inherently team-based. Gamification leverages leaderboards, team-based missions, and squad achievements to build camaraderie, reflecting the critical military concept of unit cohesion.

### **Practical Applications of Gamification in Pre-Prescription Training**

Integrating gamification into pre-prescription military education requires moving beyond superficial additions, such as merely handing out digital stickers. It requires structural gamification, where the curriculum itself is framed as a continuous, interactive campaign.

#### **1. Narrative-Driven Tactical Scenarios**

Instead of reading a manual on squad movement or field topography, students are placed into an overarching narrative or "campaign." For example, a semester can be framed as a continuous peacekeeping deployment or a search-and-rescue operation.

- **Topography Missions:** Rather than memorizing map symbols in a vacuum, students are tasked with extracting a "stranded unit." They must correctly read topographical maps, calculate azimuths, and navigate physical terrain (using orienteering gamification) within a set time limit to earn points for their squad.

## 2. Rank and Progression Systems

The traditional grading system (e.g., A, B, C or 5, 4, 3) is a poor motivator for many students. Replacing or supplementing this with a military-themed progression system dramatically alters the classroom dynamic.

- **Earning Ranks:** Students begin the course as "Recruits." As they complete assignments, demonstrate discipline, and master skills (like assembling and disassembling a training rifle within the standard time), they earn XP. Accumulating XP allows them to "promote" through ranks (e.g., Corporal, Sergeant). This taps into the psychological desire for status and visible achievement.

## 3. Time-Pressured Simulation Games for First Aid

Tactical medicine and first aid are critical components of pre-conscription education. Gamification can simulate the urgency of real-world emergencies.

- **Triage Challenges:** Instructors can set up practical stations acting as a "mass casualty event." Squads compete to correctly apply tourniquets, dress wounds, and evacuate dummies within a strict time limit, accompanied by distracting audiovisual elements (sirens, radio chatter) to simulate combat stress. Success yields "medals" or high scores, turning a medical lecture into an adrenaline-driven competition.

## 4. Interactive Quizzes and Digital Leaderboards

For theoretical knowledge, such as military statutes, international humanitarian law, or the history of the armed forces, digital gamification platforms (like Kahoot!, Quizizz, or custom-built learning management systems) are highly effective.

- **Knowledge Battles:** Theoretical reviews are transformed into fast-paced digital trivia battles where squads compete for dominance on a real-time leaderboard. The immediate feedback and competitive nature of these platforms significantly increase students' willingness to study the material beforehand.

## Pedagogical Benefits in the Military Context

The shift from traditional instruction to a gamified curriculum yields several distinct pedagogical advantages tailored specifically to the goals of pre-conscription military education:

- **The "Safe Failure" Environment:** In actual military operations, failure can be fatal. In traditional education, failure results in poor grades and demotivation. Gamification creates a "sandbox" environment where students can try, fail, analyze their mistakes, and

try again without permanent penalty. This iterative learning is crucial for developing critical thinking and tactical adaptability.

- **Increased Extrinsic to Intrinsic Motivation:** While gamification initially hooks students through extrinsic rewards (points, badges, ranks), well-designed gamified systems eventually transition students toward intrinsic motivation. As they master skills and bond with their squad, they begin to value the knowledge and the teamwork itself, rather than just the points.

- **Bridging the Gap for Non-Military Inclined Students:** Not all students in pre-conscription classes intend to pursue a military career. For these students, traditional military pedagogy can feel irrelevant. Gamification abstracts the military skills into universal challenges—problem-solving, leadership, crisis management, and teamwork—making the curriculum engaging and valuable regardless of the student's future career path.

### **Implementation Challenges and Ethical Considerations**

While the benefits are substantial, implementing gamification in a military context comes with specific challenges that educators must navigate carefully.

#### **Maintaining Discipline and Gravity**

The most significant risk of gamification in military education is the trivialization of war and military service. Pre-conscription training deals with serious themes—national security, lethal force, and medical trauma. Gamification must not turn warfare into a superficial game. Instructors must strike a delicate balance: the *learning process* should be engaging and gamified, but the *content* must be treated with the utmost respect and gravity. Clear debriefings after gamified scenarios are essential to ground the students and remind them of the real-world implications of their training.

#### **Avoiding "Pointification"**

A common pitfall is relying solely on superficial game elements—adding points and badges to boring tasks without changing the underlying pedagogy. This is often termed "pointification" and generally results in a temporary spike in engagement followed by a rapid drop-off. True gamification requires redesigning the learning experience to include meaningful choices, narratives, and collaboration.

#### **Resource Constraints**

Developing comprehensive, gamified curricula requires significant time, creativity, and sometimes financial resources for digital platforms or physical props. Educators must be supported by their institutions with the necessary training and tools to transition from traditional lectures to interactive gamified mission designs.

Pre-conscription military education is tasked with the vital responsibility of shaping resilient, knowledgeable, and patriotic youth capable of defending their nation. To meet this mandate in the 21st century, pedagogical methods must evolve to match the psychological and cognitive profiles of modern students. Gamification offers a robust, theoretically sound framework to solve the crisis of student motivation.

By translating military training into narrative-driven missions, implementing rank-based progression systems, and fostering squad-based collaboration, gamification satisfies the fundamental human needs for competence, autonomy, and relatedness. It transforms the classroom from a place of passive endurance into an active proving ground where students are eager to learn, lead, and collaborate. When implemented with careful consideration of the gravity of military service, gamification technologies do not diminish the seriousness of pre-conscription training; rather, they elevate it, ensuring that the next generation is not only obligated to learn but is genuinely motivated to serve..

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